

REMARKS

In response to the above-identified Office Action, Applicant seeks reconsideration of the application. Claims 1-2 and 4-7 are allowed, claims 8-10 are rejected. Applicant amends no claims, cancels no claims, and adds no claims.

I. Claims Rejected Under 35 U.S.C. §103

The Patent Office rejects Claims 8-10 under 35 U.S.C. § 103(a) as being unpatentable over Lee, as applied above, and further in view of U.S. Patent No. 6,0339,622 to Jeng, et al. ("Jeng"). To render a claim obvious, all limitations of that claim must be taught or suggested by at least one properly combined reference.

Applicant disagrees with the rejection above and submits that independent claim 8, as amended, is patentable over the cited references for at least the reasons that the cited references do not teach or suggest forming a contact opening through the dielectric layer to a junction region of the transistor device using a first mask, and forming a contact opening through the dielectric layer to a gate of the transistor device in the active region using a different second mask, as required by claim 8.

As noted by the Patent Office, Lee fails to teach or suggest the limitation noted above.

Next, Jeng teaches a two step process using photo resist shape 11 in the first step to form opening 12b, then removing photo resist mask 11, and selectively removing layer 9c exposed in SAC opening 12b with a chemistry that removes silicon nitride at a rate of about 5 to 20 times faster than the removal rate of layer 10 (the layer having opening 12b therein). However, the Patent

Office has not identified and Applicant is unable to find any teaching or suggestion in Jeng using a first mask to form a contact opening to a junction region, and a different second mask to form a contact opening to a gate. For mask 11 to etch openings 12b through dielectric 10, and then uses dielectric 10 to etch openings 12c through silicon nitride 9c and 9b. However, the Patent Office has not identified and Applicant is unable to find any teaching or suggestion in Jeng that dielectric layer 10 is a "mask". Moreover, there is no teaching or suggestion that a mask in addition to mask 11 is necessary to etch contacts through dielectric 10 and to gate 7, as shown in the center of Figure 6 and 7 of Jeng. For example, dielectric 10 could be etched through to gate 7 using metal interconnect structures 21 (see column 5, lines 20-25), without requiring an additional mask. Hence, for at least the reason that neither Lee, Jeng, nor the combination, teaches the above noted limitations of amended claim 8, Applicant respectfully requests the Patent Office withdraw the rejection above for that claim.

Moreover, Applicant asserts that the combination of Jeng and Lee proposed by the Patent Office is improper. For example, using silicon nitride layer 6 above and 9b as a spacer on the side of gate structure 7, thus allowing a SAC structure to be formed through openings in mask 11 to source/drain region 8 (see col. 3, line 61 through col. 4, line 58). However, using the mask as taught by Jeng in the process of Lee would render Lee unsatisfactory for its primary purpose of forming separate contacts to the gate and junction regions. Specifically, Lee teaches etching to the gate region first and then subsequently etching to the source drain region (see Lee, col. 9, line 48 through col. 10, line 3). Thus using mask 11 of Jeng as a mask to etch through layer 119 of Lee to a source

drain region as taught by Jeng (see Jeng, col. 4, line 35 through line 43) would etch away the portion of insulator 130 and 120 between the gate and junction region to create an opening that connects the prior formed opening to the gate of Lee with the subsequent to be formed opening to the source drain of Lee. In other words, the SAC contact opening formed using mask 11 Jeng would allow a contact formed in such an opening to short circuit the opening formed through layer 119 and to the source drain regions of Lee (see Lee, contact 132c) with the contact formed to the gate region (see Lee, contact 132b). As such, the combination of Lee and Jeng proposed by the Patent Office is improper. Hence, for at least this second reason, Applicant respectfully requests the Patent Office withdraw the rejection above of independent claim 8.

Since the cited references do not teach the above noted limitations of claim 8, Applicant asserts that claims 9-10 being dependent upon allowable base claim 8 are also allowable. Hence, Applicant respectfully requests the Patent Office withdraw the rejection above for those dependent claims.

CONCLUSION


In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance, and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450.

 October 7, 2005
Andrea Costello Date